

our country, exhibit any such indications of the formation of successive concentrical layers, as are to be found in a stem of the oak, pine, &c. (*w.*)

The conspicuous formation of successive layers of wood is, however, not only confined to trees of a particular class, but even among them the formation of such layers differs materially, according to their respective species, ages, and situation, when growing in their several appropriate climates. And yet a tree of one species engrafted upon the stock of another of the same species, will grow vigorously, producing fruit of a different kind, and wood of a very dissimilar appearance from that on which it grows. It is remarkable, that the branches of the resinous trees consist almost wholly of *wood*, of which the organization is even more perfect than in the body of the tree; the reverse is observed in trees with deciduous leaves. (*x*) There are six times more concentrical circles in a given space of the yellow pine, (*pinus mitis*,) than there are in the pitch pine, (*pinus regida*,) or loblolly pine, (*pinus tæda*.) (*y*) The wood of the black oak, (*quercus tinctoria*,) is coarse grained with empty pores; (*z*) that of the red oak, (*quercus rubra*,) is also coarse grained, with pores large enough for the passage of a hair. (*a*) The wood of the sweet gum, (*liquidamber styraciflua*,) when sawn into boards, is observed to be transversely marked at considerable distances, with blackish belts; (*b*) that of the black gum, (*nyssa sylvatica*,) and its genus, has its fibres interwoven and collected in bundles. It is difficult to split the wood, which in the arrangement of its tubes and woody fibres strikingly resembles that of a tree of the endogenous class. (*c*) The internal structure of the sugar maple, (*acer saccharinum*,) seems to undergo several changes in the course of its life. As the growing tree rises to maturity the grain of its wood becomes more undulated or curled; and, at an advanced age, by an inflexion of its fibres, from the circumference toward the centre, there are produced a kind of spots, which, when the wood is polished, resemble bird's eyes. (*d*) So, too, as age advances, the wood of the oak likewise undergoes some sensible changes; for, it has been said by a person in Eng-

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(*w*) Rees' Cyclo. v. Monocotyledon, Palmae, and Wood; Roget Anim. and Veget. Physi. pt. 1, c. 1, s. 2.—(*x*) 2 Mich. Am. Sylva, 274.—(*y*) 2 Mich. Am. Sylva, 254, 268.—(*z*) 1 Mich. Am. Sylva, 92.—(*a*) 1 Mich. Am. Sylva, 104.—(*b*) 1 Mich. Am. Sylva, 318.—(*c*) 2 Mich. Am. Sylva, 166.—(*d*) 1 Mich. Am. Sylva, 227.